

Table 8-4

Biological and biomedical sciences research doctorate recipients, statistical profile by sex and major field of doctorate: 2022

(Number, percent, and median years)

Characteristic	All biological and biomedical sciences fields	Biochemistry, biophysics, and molecular biology	Bioinformatics, biostatistics, and computational biology	Cell/ cellular biology and anatomy	Ecology, evolutionary biology, and epidemiology	Genetics and genomics	Microbiology and immunology	Neurobiology and neurosciences	Pharmacology and toxicology	Physiology, oncology, and cancer biology	Biological and biomedical sciences, other
All doctorate recipients (number) ^a	9,386	1,555	688	689	1,120	436	1,089	1,177	386	768	1,478
Sex (%)											
Male	46.6	51.5	58.1	45.3	38.5	45.2	43.6	47.7	41.2	47.9	45.2
Female	53.4	48.5	41.9	54.7	61.5	54.8	56.4	52.3	58.8	52.1	54.8
Unknown	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Citizenship status (%)											
U.S. citizen or permanent resident	71.9	65.7	52.9	73.4	79.5	76.8	81.5	78.5	73.8	71.0	66.8
Temporary visa holder	25.0	31.5	44.0	22.9	18.6	21.1	16.3	18.2	22.3	26.6	27.8
Unknown	3.2	2.8	3.1	3.6	2.0	2.1	2.2	3.3	3.9	2.5	5.4
Marital status (%)											
Never married	40.5	45.0	44.3	39.6	33.8	42.4	43.1	40.3	39.1	42.8	36.3
Married	34.8	31.8	34.9	34.1	42.3	34.4	33.3	32.7	37.0	37.6	33.3
Marriage-like relationship	14.6	14.1	13.1	17.4	14.6	15.4	15.7	17.8	14.0	10.8	12.9
Separated, divorced, widowed	1.7	1.6	D	1.7	3.1	D	1.7	1.4	1.3	2.1	1.9
Unknown	8.4	7.5	D	7.1	6.2	D	6.2	7.8	8.5	6.6	15.6
Has dependent age 18 or younger (%)	13.8	12.2	13.9	11.6	19.8	12.9	11.8	10.1	13.8	16.2	15.8
Has one or more functional limitations (%)	13.4	13.1	11.6	13.4	14.6	16.2	13.8	14.2	11.4	11.4	13.5
Age at doctorate (median years)	30.4	30.2	30.0	30.3	31.8	30.1	30.0	30.3	30.0	30.2	30.9
Bachelor's in same field as doctorate (%) ^b	64.6	62.8	34.1	82.9	57.2	74.9	82.0	62.1	60.2	57.3	68.9
Master's earned (%)	43.9	38.9	60.7	29.4	68.0	33.5	31.2	35.0	38.6	47.0	49.7
Master's earned at same doctorate institution (%)	36.1	36.2	44.3	37.0	30.2	36.7	34.3	51.0	36.7	36.6	28.9
Time to doctorate (median years)											
Years since earning bachelor's degree	7.9	7.6	7.4	7.8	9.0	7.6	7.5	7.9	7.3	7.6	8.2
From graduate school start	6.4	6.3	6.3	6.4	7.3	6.3	6.3	6.3	6.2	6.3	6.8
From doctoral program start ^c	5.8	5.8	5.3	5.8	5.4	5.8	5.8	5.8	5.3	5.3	5.7
Received tuition remission (%)	89.7	90.2	90.3	91.3	87.3	90.4	90.3	91.1	88.1	89.1	88.6
Male doctorate recipients (number)	4,372	801	400	312	431	197	475	561	159	368	668
Citizenship status (%)											
U.S. citizen or permanent resident	70.0	65.2	53.3	75.3	76.3	75.6	80.2	76.3	73.0	71.2	63.6
Temporary visa holder	26.5	32.1	43.3	21.2	21.6	21.8	17.5	20.0	22.6	25.8	30.2
Unknown	3.5	2.7	3.5	3.5	2.1	2.5	2.3	3.7	4.4	3.0	6.1
Marital status (%)											
Never married	42.0	46.7	47.8	41.3	34.1	43.7	43.8	41.9	39.6	41.6	37.4
Married	35.0	31.0	32.8	34.6	44.5	31.0	35.2	33.3	36.5	38.6	35.2
Marriage-like relationship	13.2	13.4	12.0	16.3	13.7	16.2	13.5	16.2	11.9	10.3	10.2
Separated, divorced, widowed	1.4	1.1	D	2.2	2.3	D	1.7	1.1	D	1.4	1.2

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Biological and biomedical sciences research doctorate recipients, statistical profile by sex and major field of doctorate: 2022

(Number, percent, and median years)

Characteristic	All biological and biomedical sciences fields	Biochemistry, biophysics, and molecular biology	Bioinformatics, biostatistics, and computational biology	Cell/ cellular biology and anatomy	Ecology, evolutionary biology, and epidemiology	Genetics and genomics	Microbiology and immunology	Neurobiology and neurosciences	Pharmacology and toxicology	Physiology, oncology, and cancer biology	Biological and biomedical sciences, other
Unknown	8.5	7.9	D	5.4	5.3	D	5.9	7.5	D	8.2	16.0
Has dependent age 18 or younger (%)	15.4	12.2	14.7	13.3	21.4	14.4	13.9	12.0	13.3	19.5	19.6
Has one or more functional limitations (%)	12.8	13.0	12.1	13.0	14.3	15.0	14.0	12.7	7.8	11.3	12.2
Age at doctorate (median years)	30.8	30.4	30.2	30.8	32.2	30.3	30.3	30.9	30.3	30.5	31.4
Bachelor's in same field as doctorate (%) ^b	61.6	58.0	34.1	82.1	56.8	70.9	80.5	60.3	59.6	51.7	67.0
Master's earned (%)	44.0	39.8	56.7	29.5	67.9	31.2	32.5	34.1	42.4	48.4	52.0
Master's earned at same doctorate institution (%)	36.7	35.2	44.5	36.0	30.2	43.1	29.5	47.8	41.9	42.8	30.3
Time to doctorate (median years)											
Years since earning bachelor's degree	8.0	7.6	7.5	8.0	9.0	7.7	7.7	8.2	7.6	7.6	8.6
From graduate school start	6.6	6.3	6.4	6.5	7.5	6.3	6.3	6.4	6.3	6.3	6.9
From doctoral program start ^c	5.8	5.8	5.3	6.0	5.7	5.8	5.8	5.9	5.3	5.3	5.7
Received tuition remission (%)	90.2	89.3	91.3	92.3	88.0	90.1	91.4	90.4	85.7	90.7	90.7
Female doctorate recipients (number)	5,014	754	288	377	689	239	614	616	227	400	810
Citizenship status (%)											
U.S. citizen or permanent resident	73.5	66.3	52.4	71.9	81.4	77.8	82.4	80.5	74.4	70.8	69.4
Temporary visa holder	23.6	30.9	45.1	24.4	16.7	20.5	15.5	16.6	22.0	27.3	25.8
Unknown	2.9	2.8	2.4	3.7	1.9	1.7	2.1	2.9	3.5	2.0	4.8
Marital status (%)											
Never married	39.2	43.2	39.6	38.2	33.5	41.4	42.5	38.8	38.8	44.0	35.3
Married	34.6	32.6	37.8	33.7	40.9	37.2	31.9	32.1	37.4	36.8	31.7
Marriage-like relationship	15.8	14.9	14.6	18.3	15.2	14.6	17.4	19.2	15.4	11.3	15.2
Separated, divorced, widowed	2.1	2.1	D	1.3	3.6	D	1.8	1.8	D	2.8	2.5
Unknown	8.4	7.2	D	8.5	6.7	D	6.4	8.1	D	5.3	15.3
Has dependent age 18 or younger (%)	12.5	12.2	12.6	10.1	18.9	11.6	10.1	8.4	14.2	13.3	12.7
Has one or more functional limitations (%)	14.0	13.3	10.9	13.8	14.8	17.1	13.6	15.6	13.9	11.4	14.6
Age at doctorate (median years)	30.2	29.8	29.8	29.9	31.6	29.9	29.7	29.8	29.6	30.0	30.6
Bachelor's in same field as doctorate (%) ^b	67.2	67.8	34.1	83.5	57.5	78.2	83.1	63.8	60.6	62.2	70.5
Master's earned (%)	43.8	37.9	66.3	29.4	68.1	35.4	30.2	35.8	36.1	45.8	47.8
Master's earned at same doctorate institution (%)	35.6	37.3	44.0	37.9	30.1	32.1	38.2	53.8	32.5	30.9	27.6
Time to doctorate (median years)											
Years since earning bachelor's degree	7.7	7.5	7.3	7.6	9.0	7.3	7.3	7.6	7.0	7.6	8.0
From graduate school start	6.3	6.3	6.3	6.3	7.3	6.3	6.0	6.3	6.0	6.3	6.7
From doctoral program start ^c	5.7	5.8	5.3	5.8	5.3	5.8	5.6	5.8	5.3	5.3	5.6
Received tuition remission (%)	89.3	91.1	89.0	90.5	86.9	90.6	89.6	91.8	89.7	87.7	86.9

D = suppressed to avoid disclosure of confidential information.

^a Includes doctorate recipients who did not report sex.

^b A bachelor's and doctoral degree are considered to be in the same field if doctorate recipient's first or most recent bachelor's degree is in the same broad field as their doctoral degree.

^c Time to doctorate from doctoral program start is based on master's degree entry if the master's degree was at the same doctoral institution in the same field of study or was a prerequisite to the doctorate; otherwise, it is based on doctoral program entry.

Note(s):

Due to rounding, percentages may not sum to 100. Beginning in 2021, a modified version of the 2020 Classification of Instructional Programs (CIP) codes was used in the survey data collection, and new broad, major, and detailed fields are used in tables reporting data from 2021 to the present; see the field list in table A-4. Therefore, the field of doctorate data prior to 2021 may not be comparable to subsequent years. For more information, see the "Technical Notes" and the SED 2021 Taxonomy Changes Working Paper (available at <https://nces.nsf.gov/pubs/nces23200>).

Source(s):

National Center for Science and Engineering Statistics, Survey of Earned Doctorates.